

REMARKS

Claims 1-12 are pending in this application. Claims 1-3, 5-7, 9, 11, and 12 have been amended to define still more clearly what Applicant regards as his invention. Claims 1, 11, and 12 are independent.

The Office Action requested that Figs. 1-12 be labeled --Prior Art--, and enclosed herewith are seven (7) sheets of drawings in compliance with this request.

Claims 1-5 and 7-12 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 5,969,764 to Sun et al. Claim 6 was rejected under 35 U.S.C. § 103(a) as being obvious from Sun et al. in view of U.S. Patent 6,415,057 to Suzuki et al.

Claim 1 is directed to an image processing apparatus including inputting means, encoding means, and control means. The inputting means inputs image data of plural objects. The encoding means encodes, with encoding conditions, the inputted image data, on an object basis. The control means sets a priority order of code amount allocation for each of the objects and, in accordance with the priority order, controls the encoding conditions of the object having a predetermined priority order, when a total code amount obtained by encoding the image data of the plural objects exceeds a predetermined code amount.

One important feature of Claim 1 is that an image processing apparatus sets a priority order of code amount allocation for each of plural objects to be encoded and, when a total code amount obtained by encoding image data of the plural objects exceeds a predetermined code amount, controls encoding conditions of the object having a predetermined priority order to change the total code amount. See, e.g., Figs. 14 and 15 of

the present application, as well as the corresponding description starting at page 14 of the specification.^{1/}

Sun et al., as understood by Applicant, relates to a method which adaptively encodes a sequence of frames including video objects to provide a compressed video signal. The encoding is via a buffer having a variable input rate and a constant output rate. The encoding uses a discrete cosine transform to produce coefficients that are quantized to generate image-representative code bits at a variable rate and texture, and motion and shape information for each video object stored in the buffer. The content of the buffer is restricted by adjusting quantization parameters with respect to a reference value and a quadratic rate distortion model to increase or decrease the number of bits stored in the buffer. Furthermore, the target number of bits for encoding each video object is estimated in accordance with a function of relative motion and size. The encoding bit rate is set to avoid buffer overflow.

It can be seen (from, e.g., column 3, lines 30-38) that Sun et al. discusses code amount control in an MPEG-4 system. Specifically, Sun et al. discusses determining a code amount $T[i]$ of an object on the basis of size, motion, and variation (Mean Absolute Difference, or MAD) of the object (see, e.g., column 9). Sun et al. also discusses determining a total code amount T on the basis of a buffer occupation ratio "a" and a difference "b" between the buffer size and "a" (see column 6, lines 28-35). However, nothing in Sun et al. teaches or suggests controlling a code amount of an object having a

^{1/}It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

predetermined priority order among plural objects, when a total code amount of the plural objects exceeds a predetermined code amount.

That is, nothing in Sun et al. teaches or suggests setting a priority order of code amount allocation for each of plural objects to be encoded and, when a total code amount obtained by encoding image data of the plural objects exceeds a predetermined code amount, controlling encoding conditions of the object having a predetermined priority order, as recited in Claim 1.

Accordingly, Claim 1 is believed to be clearly allowable over Sun et al.

Independent Claims 11 and 12 are method and storage medium claims, respectively, corresponding to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

A review of the other art of record, including Suzuki et al., has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from Claim 1 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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